

A new *Gerontha* Walker (Lepidoptera, Tineidae) from Hainan, China

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Abstract The genus *Gerontha* Walker, 1864 is recorded from Hainan Island, China for the first time. *Gerontha flexura* sp. nov. is described and illustrated. The new species can be distinguished from other *Gerontha* species by the slender aedeagus which is curved ventrally near the apex and the spindle-shaped process arising from dorso-proximal base of valva.

Key words Lepidoptera, Tineidae, *Gerontha*, new species, China.

Introduction

The genus *Gerontha* was established by Walker in 1864 with *Gerontha captiosella* Walker, 1864 as type species, and redescribed thoroughly by Diakonoff (1968). Twenty-two nominal species are hitherto included in this genus (Meyrick, 1928; Diakonoff, 1968; Zagulajev, 1972; Moriuti, 1977, 1989*a, b*; Petersen, 1987; Robinson & Tuck, 1996; Ponomarenko & Park, 1996), and excepting *G. acrosthenia* Zagulajev from New Guinea (Zagulajev, 1972) and Australia (Robinson & Nielsen, 1993), almost all the species are known from the Oriental Region to East Asia. In China, *Gerontha hoenei* Petersen, 1987 was reported from Yunnan and Zhejiang Provinces, and *G. dracuncula* Meyrick, 1928 from Taiwan. Up to the present, no *Gerontha* species have been recorded from Hainan Island. One *Gerontha* species collected in our survey of Lepidoptera in Hainan Island was considered to be new to science. The terminology used in descriptions of morphology follows Robinson & Nielsen (1993).

Gerontha flexura sp. nov. (Figs 1–2)

Male (Fig. 1). Wingspan 29.3–29.9 mm. Length of forewing 13.3–13.9 mm. Length of antenna >8.0 mm (antenna broken).

Head. Compound eyes large. Vertex covered with dense erect yellow hairs mixed with dark brown. Antenna filiform; scape dark brown; flagellum pale ochreous. Frons with dark brown hairs. Maxillary palpus blackish brown. Labial palpus clothed ventrally with long blackish brown hairs; third segment dark brown with apex yellow, medially ringed with yellow.

Thorax. Dorsum dark purplish-fuscous. Fore- and midlegs extensively covered with dark brown scales; hindleg dark black laterally with long purplish-fuscous hairs. Forewing elongate bearing short fringes only at termen, 4.4–4.5 times as long as wide; upperside yellowish brown in ground color, irrorated with black scales, forming one large black area at the axillary region and three black dots from the end of the cell to near the apex. Hindwing

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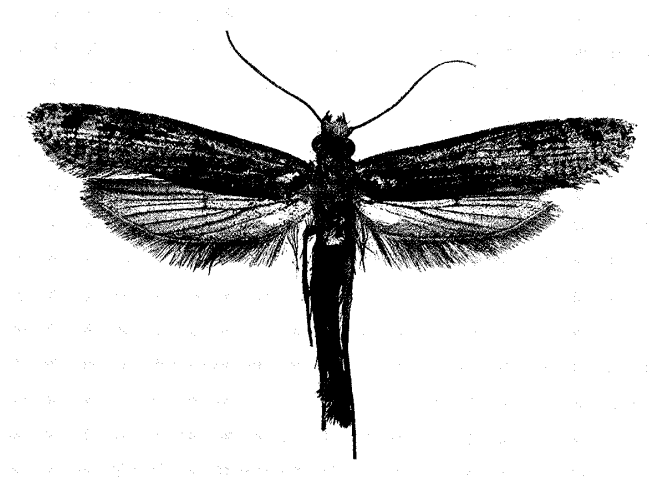


Fig. 1. *Gerontha flexura* sp. nov. Holotype, ♂.

with long brownish-gray fringes around the semihyaline except for the costa, 2.0–2.1 times as long as wide including fringes, 2.5–2.6 times as long as wide excluding fringes; upper-side pale ochreous in ground color.

Abdomen. Dorsum black, heavily irrorated with brown to fuscous-tipped scales; abdominal segment VIII with dense long gray scales covering genitalia.

Male genitalia (Fig. 2). Uncus large, triangulate, produced posteriorly into a single median process. Tegumen large and broad. Gnathos narrow, band-like, weakly sclerotized; median part fused. Vinculum small, cup-shaped; ventro-median part of posterior margin weakly produced. Saccus long and slender, about 1.2 times valva in length. Valva basal half quadrate, distal half tongue-shaped, slightly constricted at middle; dorso-proximal base with curved arm ending in a large spindle-shaped process; ventral margin medially with a small process; inner side with a distinct keel from base of the arm to the small process of the ventral margin. Juxta absent. Aedeagus slender, about as long as 1.4 times valva, nearly straight, curved ventrally near the apex; cornutus absent.

Female unknown.

Holotype. ♂, Qingjie, Wuzhishan city, Hainan, 1,000 m altitude, July 11–14, 2005, light trapping, China, M. Wang and L.S. Chen leg. Deposited in Department of Entomology, South China Agriculture University, Guangzhou, China. Paratype. 1 ♂, same data as holotype. Deposited in Entomological Laboratory, Osaka Prefecture University, Sakai, Osaka, Japan.

Distribution. Hainan, China.

Etymology. From the Latin *flexura* (=bending) referring to the aedeagus which is nearly straight and curved ventrally near the apex.

Remarks. *Gerontha* species are often very closely similar in superficial appearance and separation is sometimes extremely difficult even based on the genital characters. The new species is similar to *G. dracuncula* Meyrick, 1928 from India (Andaman Islands) and *G. amplitera* Ponomarenko & Park, 1996 from Korea in having a simple uncus not produced into paired lobes and a gnathos which is very weakly sclerotized or absent in the male genitalia. Judging from the characters of the valva with a small process at the middle of the

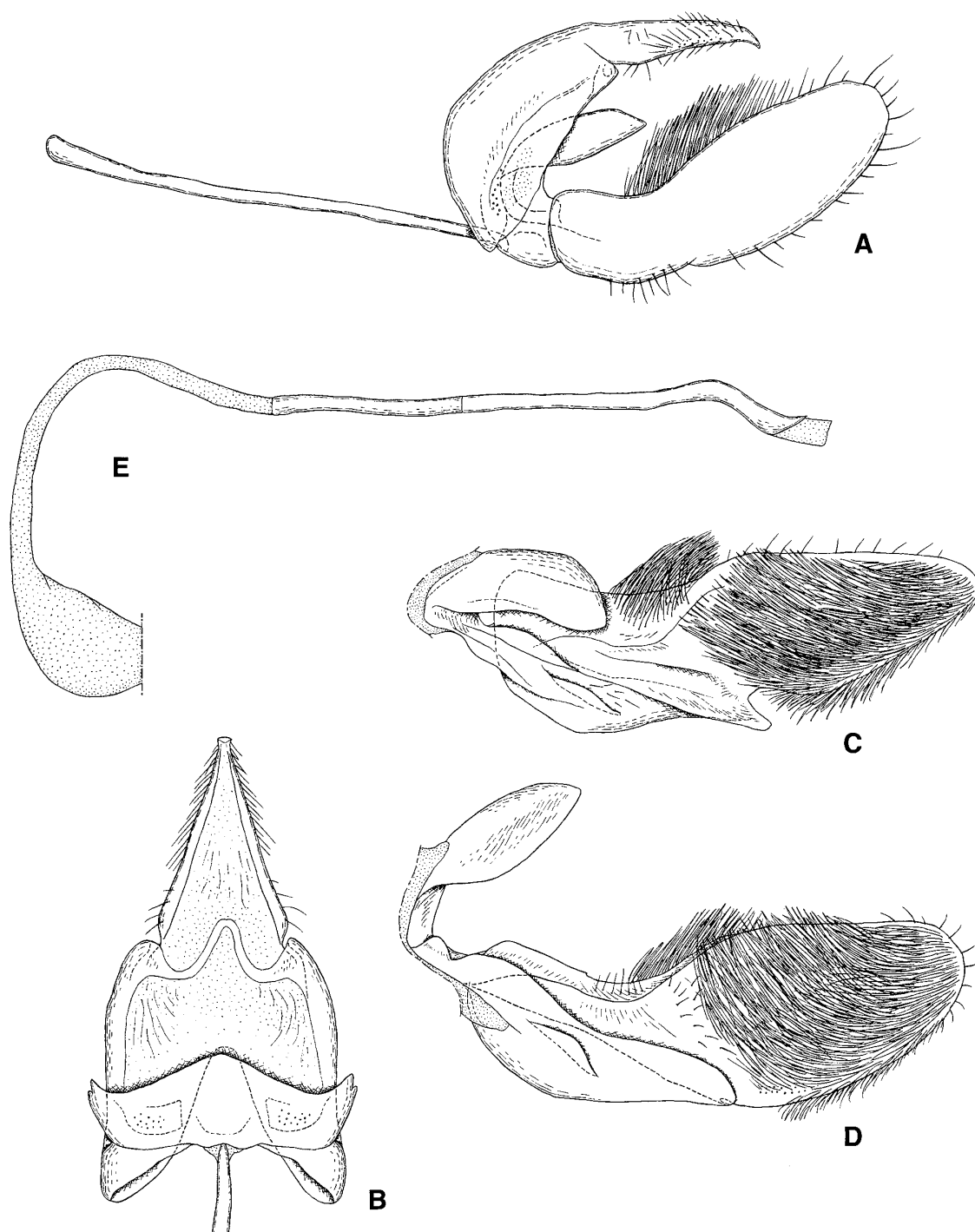


Fig. 2. Male genitalia of *Gerontha flexura* sp. nov. Holotype. A. Whole genitalia except aedeagus, lateral view. B. Whole genitalia except aedeagus, saccus and valva, ventral view. C. Right valva, dorso-inner view. D. *Ditto*, inner view. E. Aedeagus, lateral view.

ventral margin and a large process arising from the dorso-proximal base, the new species is most closely related to *G. dracuncula*.

Although we did not examine the type specimen of *G. dracuncula* (deposited in the Natural

History Museum, London), we checked the photos of the genitalia shown by Clarke (1970) and the type specimens of *G. siroii* Moriuti, 1989 from Thailand (deposited in Osaka Prefecture University), which is currently considered as a junior synonym of *G. dracuncula* (Robinson & Tuck, 1996). On the basis of the materials, the new species is distinguishable from *G. dracuncula* by the slender aedeagus curved ventrally near the apex, and by the spindle-shaped process arising from the dorso-proximal base of the valva, while in *G. dracuncula*, the aedeagus is almost straight and the process is club-like with an apical triangular hook.

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References

- Clarke, J. F. G., 1970. Tineidae. *Catalogue of the Type Specimens of Microlepidoptera in the British Museum (natural History) described by Edward Meyrick* 8: 1–113.
- Diakonoff, A., 1968. Microlepidoptera of the Philippine Islands. *Bull. U. S. natn. Mus.* **257**: 1–484.
- Meyrick, E., 1928. Tineidae. *Exotic Microlepid.* **3**: 424–433.
- Moriuti, S., 1977. Two new species of Microlepidoptera from Japan: a *Gerontha* (Tineidae) and a *Telphusa* (Gelechiidae). *Tinea* **10** (13): 131–136.
- , 1989a. Eleven new species of *Gerontha* from Southeast Asia, with notes on others (Lepidoptera: Tineidae). *Microlepid. Thai.* (2): 87–111.
- , 1989b. A new *Gerontha* (Lepidoptera: Tineidae) from Japan. *Nota lepid.* **12**: 179–182.
- Petersen, G., 1987. A new *Gerontha* (Tineidae) from China. In Sugi, S. (Ed.), Collection of papers presented to celebrate Prof. Hiroshi Inoue's seventieth birthday. *Tinea* **12** (Suppl.): 152–154.
- Ponomarenko, M. G. and K. T. Park, 1996. Notes on some tineids from Korea and Russian Far East, with description of four new species (Lepidoptera: Tineidae). *Korean J. appl. Ent.* **35**: 273–279.
- Robinson, G. S. and E. S. Nielsen, 1993. Tineid genera of Australia (Lepidoptera). *Monogr. Aust. Lepid.* **2**, xvi, 344 pp. CSIRO, Melbourne.
- Robinson, G. S. and K. R. Tuck, 1996. A revisionary checklist of the Tineidae (Lepidoptera) of the Oriental Region. *Occ. Pap. syst. Ent.* (9): 1–29.
- Zagulajev, A. K., 1972. New and little-known species of Tineidae, Deuterotineidae, Ochsenheimeriidae (Lepidoptera). *Trudy zool. Inst. Leningr.* **52**: 332–356 (in Russian).

摘 要

中国海南島産 *Gerontha* 属 (鱗翅目, ヒロズコガ科) の1新種 (黄 国華・広渡俊哉・王 敏)

Gerontha 属は日本と韓国の南部を含む東洋区とオーストラリア区に分布し, 22種が記録されている。著者らは中国南部の海南島で *Gerontha* 属の種を採集し, 検討したところ新種であることを確認したので記載した。

Gerontha flexura sp. nov.

本種は、雄交尾器の uncus が単一の突起である（二分しない）こと、valva の腹縁中央に小突起をもち、valva の背縁基部から特異な突起が伸長する点で *G. dracuncula* にもっとも近縁であると考えられるが、aedeagus が先端付近で腹方に曲がること、valva の背縁基部から伸長する突起が紡錘状であることで識別できる。雌は未知。

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